REMARKS

The Office Action mailed October 3, 2006 considered claims 1-11 and 36-38. Claims 1-2, 4, 7, 9-11 and 26-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al. (US 6,493,720) hereinafter *Chu* in view of Amiri et al. (US 2004/0133538) hereinafter *Amiri*. Claims 3, 5, and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Chu* in view of *Amiri* and further in view of Jim Challenger, Arun Iyengar, Paul Dantzig "A Scalable System for Consistently Caching Dynamic Web Data", hereinafter *Challenger et al.* Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over *Chu* in view of *Amiri* and further in view of Dettinger et al. (US 2003/0093413) hereinafter *Dettinger*.[1]

By this paper, claims 1 and 36 have been amended.[2] Claims 1-11 and 36-38 remain pending, of which claims 1 and 36 are the independent claims at issue.

The present invention is generally directed to registering for and retrieving database table change information that can be used to invalidate cache entries. Claim 1, for example, recites a method for configuring a database to provide a change notification to the Web server when content in one of the data tables relevant to a Web server is altered. Claim 1 defines selecting a data table that is to be monitored for content changes. The selected data table selected from among the one or more data tables of the database. The selected data table providing cacheable content to the Web server to efficiently generate Web responses responsive to Web based requests for content. Next, claim 1 defines inserting a record for the selected data table into a separate change notification table. The record includes versioning information identifying and corresponding to the selected data table. The versioning information is retrievable by the Web server to determine when a corresponding cache entry containing cacheable content from the selected data table is invalid. Next, claim 1 defines assigning a trigger to the selected data table, the trigger configured to update the versioning information included in the record in the change notification table when content in the selected data table is altered. Next, claim 1 defines updating the versioning information in the change notification table in response to a portion of content in the selected data table being altered. Finally, claim 1 defines sending the updated

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[1] Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.
[2] Support for the amendments to the claims are found throughout the specification, Figures, and previously presented claims, including, paragraphs [0044] – [0046], [0051], [0063], [0076], and Figure 1.

versioning information to the Web server such that the updated versioning information can be compared to the versioning information at the Web server to determine the validity of the corresponding cache entry.

Claim 36 is direct to a corresponding computer program product claim for implementing the method of claim 1.

Chu describes a method and system for synchronization of metadata in an information catalog. (Title). The metadata is included in a searchable information catalog that can be searched to determine what data is available. (Col. 5, ll. 1-38). Metadata assigned to objects is used to describe the objects. (Col. 6, ll. 52-56). Thus, generally, *Chu* describes searching metadata describing objects to locate objects of interest.

A metadata synchronizer monitors one or more objects processed by other tools to determine whether metadata for other objects has changed. (Col. 3, ll. 41-43). If metadata for an object has changed, the metadata synchronizer determines whether to modify metadata for that object in the information catalog. (Col. 3, ll. 46-48). The metadata synchronizer maintains timestamps for metadata of objects for comparison purposes and to determine whether the information catalog system or the source has the most current data. (Col. 7, ll. 48-51). The time stamps can be used to resolve conflicts when multiple sources modify objects and their metadata (Col. 7, ll. 51-60).

Amiri describes a transparent edge-of-network data cache (Title). Dynamic database caching allows data queries meant for remote servers to be serviced by a local machine. (Para. [0027]). Data consistency is maintained by propagating inserts, deletes, and updates from the original database to their cached local counterparts. (Para. [0027]). For example, data consistency is ensured by subscribing to a stream of updates propagated from the origin server. (Para. [0070]). Changes committed to the base tables at the origin are simply propagated "as is" to the cached version, without the need to reexecute the queries. (Para. [0070]). Future queries that will execute over the cache will retrieve from these newly propagated changes any matching tuples. (Para. [0070]).

Thus, *Amiri* discloses that once data is cached at an edge server, data changes to the origin table are propagated to the cache such that the cache remains consistent. Accordingly, every time a change occurs to data at an origin table and the changed data corresponds to already cached data, retransmission of the entire changed data over a network (e.g., network 107) is

required to maintain data consistency at an edge server (e.g., edge server 109). (Figure 1)
(Emphasis added). Further, cached data is updated without any determination of validity or
invalidity of the existing cached data. As stated in *Amiri*, this solution is less than ideal when a
table is undergoing a heavy workload update. (Para. [0070]).

Accordingly, *Chu* and *Amiri* neither disclose nor otherwise suggest inserting a record for
the selected data table into a separate change notification table, the record including versioning
information identifying and corresponding to the selected data table, the versioning information
retrievable by the Web server to determine when a corresponding cache entry containing
cacheable content from the selected data table is invalid, as recited in claim 1. Furhter, *Chu* and
Amiri neither disclose nor otherwise suggest sending the updated versioning information to the
Web server such that the updated versioning information can be compared to the versioning
information at the Web server to determine the validity of the corresponding cache entry, as
recited in claim 1. In view of the forgoing, and for either of these reasons, applicants submit that
amended claim 1 patentably defines over the prior art of record.

In view of the forgoing, and at least for either of the same reasons, applicants submit that
the amended claim 36 also patentably defines over the prior art of record. Applicants submit that
each of the dependent claims also distinguish over the prior art of record because each of the
dependent claims depend form one of claims 1 or 36.

Claim 1, and 36 were objected to because of the following informalities: claims 1, and 36
recited the word "for efficient generation" in the body of the claims. It indicates intended use
and as such does not carry patentable weight. The word could be changed to recite "to
efficiently generate" or "that efficiently generates". The limitations following the phrase "for"
describes only intended use but not necessarily required functionality of the claim. Limitations
following the phrase "for" do not carry patentable weight, which cause the claims to appear as a
series of non-functional descriptive material/data without any functional relation with each other.

Claims 1 and 36 have been amended to recite "to efficiently generate". Accordingly,
applications request that this objection be withdrawn.

In view of the foregoing, Applicants respectfully submit that the other rejections to the
claims are now moot and do not, therefore, need to be addressed individually at this time. It will
be appreciated, however, that this should not be construed as Applicants acquiescing to any of
the purported teachings or assertions made in the last action regarding the cited art or the pending

application, including any official notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicants specifically request that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 4th day of December, 2006.

Respectfully submitted,

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